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ABSTRACT

The Women's Educational Equity Communications Network (WEECN) has compiled information on elements concerning the status of research and development (R&D) as they pertain to women and education. The information resources cover all educational levels from preschool through reentry and continuing education. Support for R&D is discussed in the section on government and foundations support. A discussion of the second element, the status of the information base for R&D, follows. A third important element is the establishment of priorities for topics. Data are presented on topics frequently requested by users of information and on topics now being researched. The report recommends establishing priorities based on the discrepancy between topics well documented in the information base and topics requested by those concerned with women's educational equity. The kind and amount of R&D in the future partially depends on the extent to which women receive advanced degrees, obtain faculty positions, author and publish papers, and assume leadership roles within the profession. A discussion of these factors concludes the report. (Author/MLF)

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WEECN
WOMEN'S EDUCATIONAL EQUITY COMMUNICATIONS NETWORK

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Women and Education:

The Status of Research and Development

Matilda Butler
and
Jean Marzone

July 1980

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About the *Women's Educational Equity Communications Network*—WEECN is an information service and communication system established in 1977 and operated by the Far West Laboratory for the U.S. Department of Education under the auspices of the Women's Educational Equity Act. As an information service, WEECN collects, screens, classifies, stores, and provides information on projects and materials related to women's educational equity. As a communication system, WEECN facilitates contact among persons, groups and agencies who are working on behalf of women's educational equity. Users of WEECN include teachers, administrators, counselors, curriculum specialists, preservice and inservice trainers, researchers, students, parents, and citizens.

If you would like to know more about WEECN, please write to us.

—Matilda Butler, Director

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I. INTRODUCTION

Looking back from 1980, there has been concern about women and education for decades. An exponential growth of research and development began in the early 1970's. These R & D activities have mapped the concerns for educational equity for women beyond the anecdotal landmark studies of the previous decade. Still, many content areas remain chartless, new areas develop that need to be charted, and all areas need updating over the years to assess progress. To consolidate findings, replicate studies, disseminate the results, and venture into new facets of the problem domain, requires a thoughtful approach to research and development.

A systematic approach to research and development on women's educational equity includes three key elements. First, there must be support for R & D. Although some initial activities can be undertaken without funds, work cannot continue without money for labor, facilities, data collection and analysis, materials development, dissemination, and technical assistance for implementation. Government and foundations support is discussed in Section II.

A second element is review of findings. A quickly growing field of study allows for little opportunity to reflect on the new knowledge--to synthesize what has been learned. The status of the information base for R & D is discussed in Section III. Only by understanding its characteristics, including amount of information, topics covered, and formats utilized, can the knowledge be adequately reviewed.

A third important element is the establishment of priorities for topics. Without a sense of what areas need research and development activities, the field lacks the synergy created when a critical mass is working on a problem. Although there are numerous ways to approach the problem of priorities, we present data on topics frequently requested by users of information and data on topics now being researched. We then suggest establishing priorities based on the

discrepancy between topics well documented in the information base and topics requested by those concerned with women's educational equity. Discussion of these topics is presented in Section IV.

In addition to the issues of sponsorship, information base, and utilization, the participation of women in educational R & D remains a continuing concern. The kind and amount of R & D in the future partially depends on the extent to which women receive advanced degrees, obtain faculty positions, author and publish papers, and assume leadership roles within the profession. A discussion of these factors follows in Section V.

The Women's Educational Equity Communications Network (WEECN) has compiled information on each of these elements concerning the status of R & D as they pertain to women and education. WEECN is an information service that collects, screens, classifies, and stores resources in order to answer questions on projects, materials, research, and activities related to women's educational equity. The information resources cover all educational levels from preschool through reentry and continuing education. WEECN's responsibility for consolidating and categorizing existing resources and for answering information requests has allowed us to reflect on women and education--the status of research and development.

As relatively little research has been done in the field of women and education, statistical data are limited. In taking available data and analyzing them against other data, we have been forced into an occasional historical inconsistency. Although we recognize this weakness, we are confident that it in no way distorts the picture we present.

II. GOVERNMENT AND FOUNDATION SPONSORSHIP

Research and development efforts cost money. A small project can exist without special funds, assuming salaries, basic supplies, telephones, and space are already provided for. A faculty member, for instance, can conduct some R & D activities without a special budget since the basic costs are covered. That is the unique situation; it does not cover the many non-faculty individuals doing R & D, nor does it cover the needs of large research projects even on a campus. The two major sources for sponsorship of R & D are the Federal Government and private foundations. A recent study of government funding for sex equity projects showed that approximately $41,895,747 were available in FY79. The survey included the Department of Education as well as other governmental departments and agencies. Table 1 presents the amounts for each program, department, and agency.

TABLE 1

Government Funds Available for Sex Equity Projects

DEPARTMENT OF EDUCATION	FY79
Civil Rights Act IV	$9,500,000
Consumer Education	190,039
Fund for the Improvement of Post Secondary Education	3,600,000
National Institute of Education	5,100,000
Vocational Education	1,646,667
Women's Educational Equity Act Program	8,800,000
SUBTOTAL EDUCATION DEPARTMENT	$28,836,706
OTHER DEPARTMENTS & AGENCIES	
Department of Health & Human Services	
Administration on Aging	201,144
National Institute of Mental Health	9,000,000
Community Services Agency	1,323,901
National Endowment for the Humanities	1,290,701
National Science Foundation	1,243,295
SUBTOTAL OTHER DEPARTMENTS & AGENCIES	$13,059,041
TOTAL FUNDING FOR SEX EQUITY	$41,895,747

Source: Susan S. Klein and Melanie A. Goodman. Federal Funding to Support Sex Equity in Education in 1980. Paper presented at annual meeting of the American Education Research Association, 1980.

Since the Women's Educational Equity Act was legislated specifically to support a broad range of activities concerning women and education, it is worthwhile examining the number of awards and the amount of money available since funding began in FY76. Table 2 shows the pattern of awards over the past four years.

TABLE 2

WEAA Funds Available for Sex Equity Projects

	General Grants[1]		Small Grants[2]		Contracts		Totals	
	N	$	N	$	N	$	N	$
FY76	46	$4,350,489	21	$301,933	5	$1,573,788	72	$6,226,210
FY77	56	5,298,876	27	366,534	6	1,730,853	89	7,396,263
FY78	50	4,985,950	20	288,585	7	2,727,992[3]	77	8,002,527
FY79	47	5,295,110	27	376,958	10	2,037,444	84	7,709,512

[1] Includes new general and continuing grants

[2] Category defined as less than $15,000

[3] Includes several estimates for contracts not included in annual report

Source: Women's Educational Equity Act Annual Reports, Fiscal Years 1976, 1977, 1978, 1979. Office of Education. Washington, D.C.: WEEA.

The number of awards, of course, inadequately summarizes interest in and need for funding. Looking at the number of requests for funding received by WEEA, however, reveals the extent to which available dollars have been able to fulfill the need, at least as that need is expressed in funding requests. Table 3 illustrates the large increase in the number of applications for WEEA funding. In the first year, WEAA received 197 proposals for general grants. This number grew to 514 by FY79. But the amount of money available remained about the same across the four year period causing the percentage of funded proposals to drop sharply from 23% in FY76 to 9% in FY79.

TABLE 3

Applications and Awards for General and Continuing WEAA Grants

	Number of Applications	Number Funded	Percent Receiving Funds
FY76	197	46	23%
FY77	354	56	16
FY78	397	50	12
FY79	514	47	9

Source: Women's Educational Equity Act Annual Reports, Fiscal Years 1976, 1977, 1978, 1979. Office of Education. Washington, D.C.: WEEA.

TABLE 4

Major Private Granting Agencies

Grantor	Number of Grants	Grant Values	Mean Values
Ford Foundation	133	$11,484,000	$ 86,000
Carnegie Corporation	54	5,919,000	110,000
Mellon Foundation	21	2,177,000	104,000
Rockefeller Foundation	20	998,000	50,000
N.Y. Community Trust	21	645,000	31,000
Rockefeller Family Fund	28	644,000	23,000
San Francisco Foundation	15	495,000	33,000
Rubinstein Foundation	36	408,000	11,000
Cleveland Foundation	11	284,000	26,000
Rosenberg Foundation (CA)	12	205,000	17,000

Source: Financial Support of Women's Programs in the 1970's. New York: Ford Foundation, 1979.

Recent reports on funding from private foundations indicate that they are providing less money than the Federal Government for women's educational equity. More foundations, however, are aware of and provide some money for eliminating sex discriminations in 1980 than in 1970. A study of grants and contracts awarded to women's programs between 1970 and 1976 shows that 671 awards came from private foundations and 597 from Federal agencies. However, the private foundation money amounted to approximately half that of the Federal agencies ($34, 281,000 versus $61,437,000).[1] Table 4 lists the major private foundations providing money for sex equity.

The 1970's saw the beginning of some serious funding of programs concerning women and education. But the total dollar value invested in this area was and continues to be small, even combining Federal and private foundation expenditures. And some say that the amount will not continue to expand. Some foundations are indicating their need to move on to other content areas. During belt-tightening times, Federal agencies may also choose to alter their emphasis. Fortunately, as agencies become more aware of the pervasiveness of factors inhibiting sex equity in education, they seem more willing to make this a concern across a wide range of projects, rather than designating a few separate projects to "deal with" this topic.

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[1] Financial Support of Women's Program's in the 1970's. New York: Ford Foundation, 1979.

III. THE R & D INFORMATION BASE

Before educators can review, consolidate, and give priorities to research and development efforts, they must know about the amount of information, the topics covered, and the formats of the existing information.

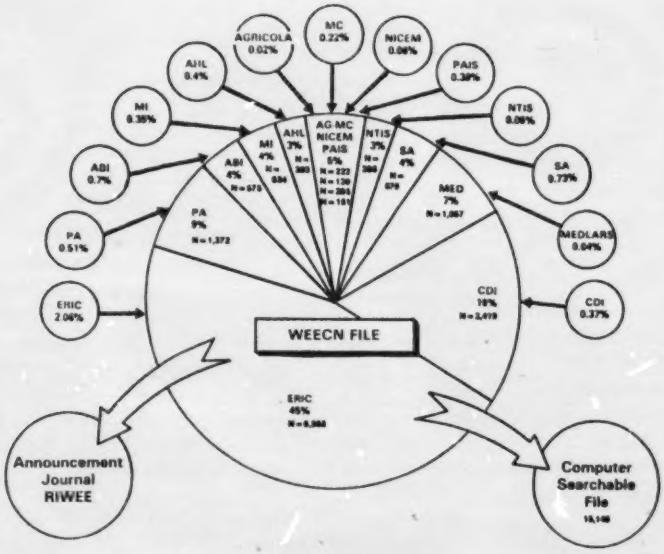
Amount of Information

The amount of information resulting from research and development efforts can be estimated in several ways. Since the national computerized databases represent extensive coverage of journal literature, document literature, and nonprint materials, we have chosen to analyze their contents as one way to determine the amount of information.

In order to build the WEECN database, WEECN regularly searches thirteen computerized databases (ABI/INFORM, AGRICOLA, America: History and Life, Dissertation Abstracts International, Educational Resources Information Center, Magazine Index, Management Contents, MEDLARS, National Technical Information Service, Psychological Abstracts, Public Affairs Information Service, Sociological Abstracts, and National Information Center for Educational Media). By using those terms most appropriate for women and education and by screening the result of the searches, WEECN has consolidated much of the information on women's educational equity.

Figure 1 shows the number of citations from each of the source databases included in the WEECN file. There are, for instance, 6,956 documents and journal articles from ERIC, 2,419 from CDI, and 1,372 from Psychological Abstracts. Currently, the WEECN database contains more than 15,000 citations from these thirteen source databases covering 1975 to 1978. But these citations represent a small percentage of their source databases, ranging from as much as 2% (ERIC) and as little as .02% (AGRICOLA). Even in a database devoted to education (ERIC), only 2% is directly related to women's educational equity. In fact, ERIC has more documents pertaining to disabled persons and minorities than it has on women.

FIGURE 1



WEECN FILE
SOURCE DATA BASE CONTRIBUTIONS

Marlaine Lockheed and Sandra Stein (1979) estimate the amount of education and education-related journal literature focusing on women and education. The authors analyzed four "empirical research journals published by professional social science associations and highly rated by American Educational Research Association (AERA) members" and two "research journals specifically concerned with women's issues." They found that the Journal of Educational Measurement had the lowest percentage (5%) of articles dealing with women and education while the

Psychology of Women Quarterly had the highest percentage (48%).[1] As Table 5 indicates, the journals most highly rated with AERA members devote only a small amount of space to women and education.[2]

TABLE 5

Articles Dealing with Women and Education
Published in Selected Education Journals, 1973-1977

Journal	% Devoted to Women & Education
Journal of Educational Measurement, 1973-1977, 20 issues, total article number is 155	5%
Sociology of Education, 1973-1977, 20 issues, total article number is 138	6
American Educational Research Journal, 1973-1977, 20 issues, total article number is 105	10
Journal of Educational Psychology, 1973-1977, 30 issues, total article number is 574	12
Sex Roles, 1975-1977, 14 issues, total article number is 103	16
Psychology of Women Quarterly, 1976-1978, 8 issues, total article number is 40	48

Source: Marlaine E. Lockheed and Sandra L. Stein. The Status of Women's Research in Educational Publications. Princeton: Educational Testing Service, 1979.

[1] A computer search of Current Index to Journals in Education (CIJE) for the chosen journals was conducted. Terms were "woman, women, female, females, girl, girls, feminist, feminists, feminism, feminity, sex (excluding sex education), and any multiple word term beginning with sex or any word with sex as the root in either the title, abstract or descriptors."

[2] Although Lockheed and Stein have updated the data to 1978, they omitted two journals important to our study, Sex Roles and Psychology of Women Quarterly. We have continued to use the older data, but find the statistics to be virtually unchanged. For update see Marlaine E. Lockheed and Sandra L. Stein, "The Status of Women's Research in Educational Publications," Educational Researcher, Feb. 1980, 11-15.

As low as these numbers are, the coverage of topics concerning women and education in these selected journals is compared with the coverage in the 700 journals indexed in Current Index to Journals in Education (1975-1979), the selected journals prove to have a higher percentage (11%) than all journals in CIJE (2%). Even removing the journals focusing on women, the four select journals continue to have a higher percentage (9%).

FIGURE 2

Topics Concerning Women's Educational Equity

Although data on how much information exists about women's educational equity is necessary, it is also important to know what topics have been covered. The WEECN database will tell something about the

topic areas. We used the subject index of the first five editions of Resources in Women's Educational Equity to determine the topics that represent at least two percent of the total number of documents. The print version of the database and its three indexes are illustrated in Figure 2.

The major topic areas are listed in Table 6. Although the list is simplistic and does not give any of the relationships between various topics, some clusters do emerge. For example, seven topics are concerned with careers and employment--working women, equal opportunities (jobs), employment patterns, affirmative action, vocational counseling, career choice, and occupational aspiration. Another cluster of topics shows concern for roles--sex role, self concept, sex role stereotypes, and role perception.

TABLE 6

Major Document Topics from Resources in Women's Educational Equity[1]

Topic	Number of Documents
Sex Discrimination	760
Working Women	728
Sex Role	706
Sex Differences	669
Feminism	497
Sex Stereotypes	495
Equal Opportunities (Jobs)	417
Self Concept	332
Sex Role Stereotypes	332
Women's Education	289
Higher Education	239
Administrative Personnel	232
Employment Patterns	232
Affirmative Action	231
Vocational Counseling, Development, Education	230
Sex Bias	220
Career Choice	198
Role Perception	197
Women's Studies	190
Occupational Aspiration	186

[1] Volume 1, Volume 2, Volume 3 (No. 1 and No. 2), Special Issue 1. The total number of documents is 8,908.

Paul Hood (1980), in a recent study of the ERIC database, compared coverage of eight educational topics with reference to five groups. Three of these groups--women, disabled, and minorities--present an interesting comparison. Using those ERIC descriptors that most clearly related to each group resulted in 13 terms for women with 13,719 documents, 14 terms for minorities with 14,763 documents, and 17 terms for disabled with 15,771 documents. Although women are the largest of these three populations, they have the fewest number of documents in the database.

The eight educational topics were ability, learning, instruction, curriculum, counseling, attitudes, administration, and employment. Each topic, like each group, was composed of several terms. A comparison of each topic for each group shows considerable differences within the ERIC database. These eight topics account for more than half of all documents concerning women (62%), disabled (65%), and minorities (72%). More than one third of all documents posted to women are accounted for by the topics of attitudes (23%) and employment (11%). These same two topics account for about one tenth of all documents for the disabled (9% + 4% = 13%), and about one fourth of all documents for minorities (17% + 7% = 24%). While attitudes and employment account for the highest percentage of documents about women, learning (13%) and instruction (13%) account for the most documents on the disabled, and attitudes (17%) and instruction (15%) account for the most documents on minorities. (Table 7)

Information Formats

The same information can be published in a variety of formats. These different formats (e.g., monograph, bibliography, film) frequently influence who will use the information. For instance, a bibliography of research studies may be excellent for a researcher but be of little interest to a parent. However, a synthesis of these same research studies with an emphasis on practical applications might be of interest to a teacher.

To determine the formats R & D on women and education have been published in, we analyzed the

TABLE 7

ERIC Database Coverage of Eight Educational Topics With Reference to Three Groups

	Women 13 terms D=13,719[1]	Disabled 17 terms D=15,771	Minorities 15 terms D=14,763
Ability 8 terms	6%	10%	6%
Learning 6 terms	5	13	9
Instruction 6 terms	4	13	15
Curriculum 5 terms	3	7	11
Counseling 11 terms	7	5	4
Attitudes 7 terms	23	9	17
Administration 6 terms	3	4	3
Employment 8 terms	11	4	7
Total	8,594 62% of Documents	10,254 65% of Documents	10,728 72% of Documents

[1] D = Documents

Source: William Paisley, Mary Kathryn Cirksena, and Matilda Butler. Conceptualization of Information Equity Issues in Education. Paper prepared for the conference, "Indicators of Equity in Information Dissemination Programs in Education," sponsored by the National Institute of Education, Washington, D. C., February 22-23, 1979.

ERIC database from mid-1976 through mid-1979. Using the cluster of terms for women and for the educational topics of attitudes, counseling, curriculum, and employment, as in Table 7, we found the most frequently (5% or more) used formats. The research report is the most frequent format for all four topics, ranging from a high of 55% for employment to a low of 27% for the

curriculum topics. Speeches and conference reports were as much as 22% of all documents on women and attitudes and as little as 7% of the documents on women and curriculum. (Table 8) These figures vary from the overall percentages for ERIC in which research reports are 34%, speeches and conference reports are 18%, teaching guides/resource guides are 13%, books are 8%, program/project descriptions are 6%, curriculum guides/materials are 5%, and bibliographies are 5%.

TABLE 8

Frequently Used Publication Formats in ERIC, 1976-1979

	% of Documents on Women and Education
Attitudes	
Research reports	52%
Speeches, conference reports	22
Books	6
Bibliographies	5
N =	975
Counseling	
Research reports	43%
Teaching guides/resource guides	13
Program/project descriptions	11
Bibliographies	9
Speeches, conference reports	9
N =	341
Curriculum	
Research reports	27%
Curriculum guides/materials	15
Teaching guides/resource guides	14
Bibliographies	12
Program/project descriptions	11
Books	8
Speeches, conference reports	7
N =	233
Employment	
Research reports	55%
Speeches, conference reports	11
Books	7
Bibliographies	6
Teaching guides/resource guides	6
N =	664

IV. USER INTEREST AREAS

As background to the task of determining priorities for the content domain of women and education, we have compiled information on R & D grants from WEEA and NIE and on topics frequently requested from WEECN. We next present two conditions for priorities--one considers the discrepancy between frequently requested topics and available information in the database and one is developed by WEEA.

One indication of interest in certain topics, as well as needed areas for research and development, is the subject matter focus of funded proposals for Federal agencies. An analysis of WEEA funded grants from 1976-1979 shows the greatest emphasis to be on curricula/textbooks/educational materials (28%), followed by preservice/inservice grants (15%), counseling and guidance grants (12%), and career education grants (12%). The additional six areas each represented less than ten percent of the awarded grants. (Table 9). These statistics provide a good idea of the areas the researchers feel are worth pursuing. Admittedly an analysis of submitted proposals would have been even more revealing, but such information is unavailable. At the same time, the data are not adversely affected by independently established priorities. Not until FY80 did WEEA establish priorities, which the grantees were expected to address.

TABLE 9

WEEA Grants by Topic

Curricula/textbooks/educational materials	28%
Preservice/inservice	15
Counseling and guidance	12
Career education	12
Adult education	8
Research and development	6
Unemployment/underemployment	6
Educational administration	6
Vocational/technical education	5
Physical education/sports	3
Other	-
N =	509

The National Institute of Education, on the other hand, did set priorities, and we should keep that in mind when looking at the grant categories. For 1979-80, NIE has 107 ongoing grants that focus on women and education. The category with the largest number of awards is women in higher and continuing education (31%), followed by women in mathematics, science and technology (27%), sex equity in careers and employment (12%), and women with special needs (10%). All other topics represent less than 10% of the total. (Table 10).

TABLE 10

NIE Grants by Topic

Women in higher and continuing education	31%
Women in mathematics, science and technology	27
Sex equity in careers and employment	12
Women with special needs	10
Women educators	7
Sex equity in elementary and secondary school practices	6
General projects on sex equity	6
N =	107

Now consider the topics most frequently mentioned in individual requests for information from WEECN. These topic counts exclude requests for our publications and for general information. Between October 1977 and April 1980, the most frequently requested topics have been career education (278), employment/jobs/salaries (212), sex discrimination/sex stereotypes (211), and fellowships/scholarships/student financial aid (194). Table 11 includes all topics with at least 50 requests.

WEECN sent a coupon[1] to a large number of individuals and asked them to return it if they wished to be added to our mailing list and to receive our bulletins. They were also asked to check, according to a list of 20 interest areas, which WEECN publications

[1]The coupon sent out during the first year of the project was designed to advertise the project.

TABLE 11

Information Topics Requested by WEECN Clients[1]
October 1977 - April 1980

Topic	Number of Requests
Career education/career awareness/ career opportunities	278
Employment/jobs/salaries	212
Sex discrimination/sex segregation/ sex stereotypes/sexism	211
Fellowships/scholarships/student financial aid	194
Elementary/secondary education	186
Higher education	179
Educational administration/ management development	178
Displaced homemakers/homemakers/ marriage/marital status	153
Grants/proposals	114
Vocational education	108
Minority women	88
Curriculum and program development/ evaluation	80
Science and mathematics curriculum	76
Physical and mental health	72
Title IX	65
Reentry programs	63
Counseling programs/services/ materials	62
Academic ability/achievement	55
Instructional materials	55
Women's studies	55
Media	51

[1] 50 or more requests per topic

they would like to be informed about. Table 12 lists the percentage of those responding "yes" to the 20 areas. Career awareness (68%) and sex roles/ stereotypes (68%) were most frequently mentioned. These were followed by statistics on women's participation in education (60%), state and Federal legislation (55%), and sex differences and similarities (50%).

Because interest areas might vary according to region of the country, sex of client, or position of client, we looked for differences by category. Table 13 shows the results of this analysis. Each

cient was coded according to the U.S. Office of Education's ten regions.[2]

TABLE 12

Interest Areas Indicated by Respondents to WEECN Coupon

Interest Area	Percentage "Yes"
Career Awareness	68%
Sex Roles and Stereotypes	68
Statistics on Women's Participation in Education	60
State and Federal Legislation	55
Sex Differences and Similarities	50
Sexism in Language	47
Reentry Programs	46
Minority Women	46
Vocational Education	42
Nonsexist Instructional Materials	41
School Influences	39
Family Influences	38
Test Bias	33
Textbook Bias	33
Mental Health	32
Nonsexist Child Rearing	30
Rural Women	24
Disabled Women	23
Mathematics	21
Physical Education	20

N = 3916

Nine interest areas are differentiated by specific regions. These differences are elaborated in Table 14. Eight interest areas are differentiated by sex of respondent. These are detailed in Table 15.

[2]USOE Regions are as follows: 1) Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; 2) New Jersey, New York, Puerto Rico, Virgin Islands; 3) Delaware, Maryland, Pennsylvania, District of Columbia, Virginia, West Virginia; 4) North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Kentucky, Tennessee; 5) Ohio, Indiana, Illinois, Michigan, Minnesota, Wisconsin; 6) Texas, Louisiana, Oklahoma, Arkansas, New Mexico; 7) Iowa, Kansas, Missouri, Nebraska; 8) Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming; 9) Arizona, California, Nevada, Guam, Hawaii, American Samoa; 10) Idaho, Oregon, Washington, Alaska.

TABLE 13

Analysis of Interest Areas
from User Request Data - 3916 Users

INTEREST AREA	Significance of Differences by: REGION	SEX	POSITION
Vocational Education	**	*	**
Mathematics	*	-	**
Physical Education	-	**	**
Career Awareness	*	**	**
Test Bias	-	**	**
Textbook Bias	-	-	**
Sexism and Language	**	-	**
Nonsexist Instructional Materials	*	-	**
Nonsexist Childrearing	-	*	**
Rural Girls and Women	**	-	**
Disabled Girls and Women	-	-	**
Minority Girls and Women	**	-	**
Sex Differences and Similarities	**	-	**
Sex Roles and Stereotypes	-	-	-
Family Influences	-	*	**
School Influences	*	-	**
Mental Health	-	-	**
State and Federal Legislation	-	-	**
Reentry Programs	-	**	**
Statistics on Women's Participation in Education	-	**	**

NOTE: ** = p less than .01 (chi-square test of interest frequences);
* = p less than .05, greater than .01
- = p greater than .05

Although almost half of the interest areas are differentiated by both region and sex, nineteen of the twenty areas are differentiated by postion. Table 16 indicates that vocational education appears to be of greater interest to elementary/secondary, government, and women's groups (51%, 56%, and 54%, respectively) than to other groups. Physical education is of greatest interest at the elementary/secondary level (31%), whereas career awareness is highest for women's groups (73%), followed by government (70%). Rural girls and women is of greatest interest to women's groups, although to only 36% of reported groups, and minority girls and women comes first with government (57%), followed closely by women's groups (56%). School influences is highest for elementary/secondary (59%).

TABLE 14

Interest Areas by Region

Differences by Region

INTEREST AREA	REGION									
	1	2	3	4	5	6	7	8	9	10
Vocational Education	40%	43%	40%	44%	35%	39%	44%	52%	48%	44%
Mathematics	20	23	20	19	19	12	21	29	22	23
Career Awareness	71	70	65	70	66	68	76	68	65	64
Sexism and Language	41	45	42	46	49	51	47	62	48	51
Nonsexist Instructional Materials	38	39	35	41	42	47	45	46	43	48
Rural Girls and Women	18	21	26	30	22	25	33	36	20	27
Minority Girls and Women	37	47	46	45	43	56	45	39	51	46
Sex Differences and Similarities	44	54	48	52	52	53	51	56	44	50
School Influences	33	39	37	39	38	37	39	46	38	49
N =	327	536	538	313	761	173	229	111	673	220

TABLE 15

Interest Areas by Sex

Differences by Sex

INTEREST AREA	SEX	
	Female	Male
Vocational Education	41%	47%
Physical Education	20	26
Career Awareness	69	61
Test Bias	32	40
Nonsexist Childrearing	31	26
Family Influences	39	33
Reentry Programs	48	35
Statistics on Women's Participation in Education	62	52
N =	3301	437

Table 17 examines the data in another way. It rank orders the nineteen interest areas for each of the six positions, illustrating what some of their priorities are. Career awareness ranks first with all six. State and Federal legislation ranks second for three of the six positions (government, R&D/information specialists, and business/professional). Statistics on women's participation in education comes within the

TABLE 16

Interest Areas by Position

Differences by Position

INTEREST AREA	Elem./ Sec.	Higher Educ.	Govern- ment	R&D/ Info.	Women's Groups	Bus./ Prof.
Vocational Education	51%	34%	56%	48%	54%	38%
Mathematics	27	19	22	24	27	16
Physical Education	31	18	25	24	23	16
Career Awareness	67	68	70	65	73	62
Test Bias	47	28	43	41	34	30
Textbook Bias	50	27	42	41	35	32
Sexism and Language	53	41	56	50	54	47
Nonsexist Instructional Materials	55	34	50	48	48	41
Nonsexist Childrearing	31	26	30	33	39	34
Rural Girls and Women	12	21	31	29	36	23
Disabled Girls and Women	12	22	32	24	33	20
Minority Girls and Women	32	44	57	49	56	42
Sex Differences and Similarities	40	52	54	47	49	50
Family Influences	41	35	38	40	44	40
School Influences	59	32	46	46	38	38
Mental Health	26	31	31	34	40	35
State and Federal Legislation	50	52	66	57	60	53
Reentry Porgrams	17	50	44	44	64	41
Statistics on Women's Participation in Education	54	64	62	55	63	51
N =	350	1811	275	429	477	574

NOTE: R&D Info. designates R&D labs and centers, information programs and services.
Bus./Prof. designates primarily businesses and professional groups and associations.

first four topics for all six positions and ranks third for four of the six (government, R&D/information specialists, women's groups, business/professional). Taking the top five topics in each of the six positions, we can arrive at the following list of nine "priority" areas: career awareness, school influences, nonsexist instructional materials, statistics on women's participation in education, sexism in language, sex differences and similarities, state and Federal legislation, reentry programs, minority women, and vocational education.

TABLE 17

Rank Order of Interest Areas by Position

Elem./Sec.	Higher Ed.	Government
Career Awareness (67%)	Career Awareness (68%)	Career Awareness (70%)
School Influences (59%)	Statistics on Women in Education (64%)	State & Federal Legislation (66%)
Nonsexist Instruc. Materials (55%)	Sex Differences and Similarities (52%)	Statistics on Women in Education (62%)
Statistics on Women in Education (54%)	State & Federal Leg slation (52%)	Minority (57%)
Sexism in Lang. (53%)	Reentry (50%)	Vocational Ed. (56%)
Vocational Ed. (51%)	Minority (44%)	Sexism in Lang. (56%)
State & Federal Legislation (50%)	Sexism in Lang. (41%)	Sex Differences and Similarities (54%)
Textbook Bias (50%)	Family Influ. (35%)	Nonsexist Instruc. Materials (50%)
Test Bias (47%)	Vocational Ed. (34%)	School Influences (46%)
Family Influ. (41%)	Nonsexist Instruc. Materials (34%)	Reentry (44%)
Sex Differences and Similarities (40%)	School Influences (32%)	Test Bias (43%)
Minority (32%)	Mental Health (31%)	Textbook Bias (42%)
Physical Ed. (31%)	Test Bias (28%)	Family Influ. (38%)
Nonsexist Child Rearing (31%)	Textbook Bias (27%)	Disabled (32%)
Mathematics (27%)	Nonsexist Child Rearing (26%)	Rural (31%)
Mental Health (26%)	Disabled (22%)	Mental Health (31%)
Reentry (17%)	Rural (21%)	Nonsexist Child Rearing (30%)
Rural (12%)	Mathematics (19%)	Physical Ed. (25%)
Disabled (12%)	Physical Ed. (18%)	Mathematics (22%)

R&D, Info.	Women's Groups	Bus./Prof.
Career Awareness (65%)	Career Awareness (73%)	Career Awareness (62%)
State & Federal Legislation (57%)	Reentry (64%)	State & Federal Legislation (53%)
Statistics on Women in Education (55%)	Statistics on Women in Education (63%)	Statistics on Women in Education (51%)
Sexism in Lang. (50%)	State & Federal Legislation (60%)	Sex Differences and Similarities (50%)
Minority (49%)	Minority (56%)	Sexism in Lang. (47%)
Vocational Ed. (48%)	Vocational Ed. (54%)	Minority (42%)
Nonsexist Instruc. Materials (48%)	Sexism in Lang. (54%)	Nonsexist Instruc. Materials (41%)
Sex Differences and Similarities (47%)	Sex Differences and Similarities (49%)	Reentry (41%)
School Influences (46%)	Nonsexist Instruc. Materials (48%)	Family Influ. (40%)
Reentry (44%)	Family Influ. (44%)	Vocational Ed. (38%)
Test Bias (41%)	Mental Health (40%)	School Influences (38%)
Textbook Bias (41%)	Nonsexist Child Rearing (39%)	Mental Health (35%)
Family Influ. (40%)	School Influences (38%)	Nonsexist Child Rearing (34%)
Mental Health (34%)	Rural (36%)	Textbook Bias (32%)
Nonsexist Child Rearing (33%)	Textbook Bias (35%)	Test Bias (30%)
Rural (29%)	Test Bias (34%)	Rural (23%)
Mathematics (24%)	Disabled (33%)	Disabled (20%)
Physical Ed. (24%)	Mathematics (27%)	Mathematics (16%)
Disabled (24%)	Physical Ed. (23%)	Physical Ed. (16%)

Moving beyond percentages, we correlated the 20 interest areas to see if there are patterns of relationships. The result of this analysis is shown in Figure 3. This "conceptual map" demonstrates that interest areas do not stand alone, but are actually clusters of areas. For instance, taking the "priority" topics listed above, we find that career awareness is correlated with vocational education; school influences is correlated with family influences as well as textbook bias; nonsexist instructional materials is correlated with nonsexist childrearing,

FIGURE 3

"Conceptual Map" Based on Correlations among Interest Areas

Mathematics * * .50 * * Physical Education
Career Awareness * * .40 * * Vocational Education
Family Influences * * .43 * * Nonsexist Childrearing
.56
.41
School Influences
Test Bias * * .42 * * Nonsexist Instructional Materials
.40
.61
.57
.44
Textbook Bias * * .49 * * Sexism and Language
.40
Sex Roles and Stereotypes
.49
Sex Differences/Similarities
Disabled Girls & Women * * .43 * * Rural Girls & Women
.46
Minority Girls & Women

test bias, textbook bias, and sexism in language; sexism in language is correlated with nonsexist instructional materials, textbook bias, sex roles and stereotypes; sex differences and similarities is correlated with disabled girls and women; and rural girls and women is correlated with disabled girls and women.

These patterns help us better understand the concerns of WEECN clients. They also indicate possible relationships to be explored further in our research and development efforts.

The discrepancy between interest areas and available information in the database indicates the need for additional research and development and shapes our priorities. For instance, of the five top areas--career awareness, sex roles and stereotypes, statistics on women's participation in education, state and Federal legislation, and sex differences and similarities--only three (career awareness, sex roles and stereotypes, and sex differences and similarities) are well represented in the literature.

From the second five areas--sexism in language, reentry programs, minority women, vocational education, and nonsexist instructional materials--only one (vocational education) is adequately represented in the database.

Recalling the topics frequently requested of WEECN (see Table II), we note that some of these also are poorly represented in the literature. For instance, it seems that more R & D is needed on reentry programs, sexism in language, minority women, displaced homemakers, and fellowships/scholarships/student financial aid.

In a second, and independent, effort to establish priorities, WEEA announced five areas for its funding in FY80. These are:

- Priority for model projects on Title IX compliance
- Priority for model projects on educational equity for racial and ethnic minority women and girls

- Priority for model projects on educational equity for disabled women and girls
- Priority for model projects to influence leaders in educational policy and administration
- Priority for model projects to eliminate persistent barriers to educational equity for women.

These five broad topic areas represent a good balance between areas where there is little current information (e.g., disabled women and girls), where there is a demand for information (e.g., minority women and girls), and where there is a necessity for future directions (e.g., Title IX).

V. WOMEN'S PARTICIPATION IN EDUCATIONAL RESEARCH AND DEVELOPMENT

The difficulty academic women experience in achieving professional status is, in part, a product of the circular pattern of "invisibility" that affects their chances to perform in roles and settings that will lead to recognition. An academic woman or a woman involved in educational research and development makes slow progress in her employing institution if she has achieved little professional recognition, while professional recognition (publication, service on editorial boards) depends considerably on her position. The latter relationship is strengthened by Federal policies for research support, which favor well-established investigators.

Adding to this situation, women continue in a pattern of attrition from undergraduate to graduate degrees. In 1977-78, women received 72% of the BAs, 68% of the MAs, and only 39% of the Ph.D.s in education. Without the advanced degrees, women will continue to be invisible in academic and research and development institutions. However, even those women obtaining the Ph.D. have difficulty receiving recognition. There are many ways to measure the recognition or participation of women in educational research and development. Two of these are authorship and leadership roles in a professional association.

Authorship on Women and Education

Authoring journal articles continues to be an important factor in career advancement for those in educational research and development. The emergence of computerized databases has conferred a new status to authoring technical reports and to developing curriculum materials. In an effort to determine the recognition and participation of women in R & D, we need to learn the extent to which women are the authors of articles and documents. When the topic is women and education, it is expected that a high percentage of the authors are women. We examined the

patterns in the WEECN database of female/male authorship across the 13 source databases that contribute to the WEECN file. Table 18 shows the sex of authors of WEECN citations from 11 bibliographic databases. Two sources, Management Content and MEDLARS, are excluded because of the low percentage of citations with identifiable authors.

TABLE 18

Sex of Authors of Citations by Database

Database	One Woman	One Man	Women/ Men	Two or More Women	Two or More Men	One Woman et al.	One Man et al.	Total
ABI/Inform	38%	30%	12%	5%	13%	1%	1%	328
AGRICOLA	59	10	6	17	3	2	2	86
America: History and Life	68	21	6	5	1	-	-	197
Dissertation Abstracts	81	19	-	-	-	-	-	1326
ERIC Documents	43	15	11	10	4	9	7	1735
ERIC Journal Articles	47	17	11	8	6	5	5	2076
Magazine Index	68	25	3	4	-	-	-	296
NTIS	36	24	18	4	13	-	4	208
Psychological Abstracts	27	19	23	11	16	2	2	745
Public Affairs Info Service	45	35	6	6	4	3	-	94
Sociological Abstracts	48	19	13	9	7	2	2	322
Total	51	19	10	7	6	4	4	
	(3795)	(1386)	(743)	(532)	(433)	(296)	(259)	7433

Across all 11 databases, 51% of the documents had a woman as the author, 19% had a man as the author, 10% had women and men as coauthors, 7% had two or more women, 6% had two or more men, 4% had one woman and unidentified others, and 4% had one man and unidentified others. Dissertation Abstracts had 81% of its entries on women and education authored by one woman.

This is interesting, since women earn only 39% of the Ph.D.s in education. This was followed by America: History and Life (68%), Magazine Index (68%), and AGRICOLA (59%). Psychological Abstracts had the lowest percentage of its entries authored by one woman (27%). This was followed by NTIS (36%), and ABI/INFORM (38%). The figures are more positive when we look at women's participation across the board, tallying the documents with one woman author, women and men coauthors, two or more women, and one woman et al. Women were involved in 84% of the entries in AGRICOLA, 79% in America: History and Life, and 75% in Magazine Index.

Looking at authorship of articles on women and education in those education journals represented in Current Index to Journals in Education (CIJE), we find that women authored 62%. But when Lockheed and Stein (1980) consider six major journals, they discover that women authored 3% of the articles on women and education. In fact, for all topics, women represented only 16%. (Table 19) Without additional information, it is impossible to determine if women are less likely to submit their articles to the prestigious journals or if the leading journals are more likely to reject articles by female authors.

TABLE 19

Authorship of Articles on Women and Education Compared with Authorship of Articles on Other Topics, all Journals 1973-1978

Authorship	Articles on Women and Education	Articles on Other Topics	Total Articles
Authored by woman	75	281	356
(%)	(3)	(13)	(16)
Coauthored by women and men	93	533	626
(%)	(4)	(24)	(28)
Not authored by women	135	1,122	1,257
(%)	(6)	(50)	(56)
Total	303	1,936	2,239
(%)	(14)	(87)	(100)

Source: Marlaine E. Lockheed and Sandra L. Stein. "The Status of Women's Research in Educational Publications." Educational Researcher, February 1980.

Broadening our focus again to include all education-related topics, the data from three journals published by the American Educational Research Association (AERA) indicate that women were primary or secondary authors of 19% to 25% of all articles published in 1978-79. (Table 20)

TABLE 20

Authorship in AERA Journals, 1978-79

Journal	Number of Authors	Number of Women	% Women
Review of Educational Research	40	10	25%
American Educational Research Journal	95	24	25
Educational Researcher	37	7	19

Source: William H. Schubert. "Contributions to AERA Annual Programs as an Indicator of Institutional Productivity." Educational Researcher, July/August 1979.

Authorship of conference papers is also important for career advancement and recognition. Data from the last ten years shows women making a consistent gain in authoring conference papers. In 1970, women presented 8% of the papers at the American Educational Research Association (AERA) annual meeting. By 1980 the number had risen to 23%. (Table 21) During the same years, the percentage of papers with only a male author declined from 62% to 42%.

The AERA conference paper authorship data also show that men are more likely to publish with other men than women are to publish with other women. When we separate the conference papers into those authored by women and those authored by men (papers with female and male coauthors appear twice), we find several changes over the ten-year period. First, Table 22 shows an increase in the percentage of papers by women with a single author (45% in 1970 and 56% in 1980) and a complementary decrease in the percentage of papers

TABLE 21

AERA Conference Authorship

	1970	1972	1974	1976	1978	1980*
Single author female	8%	13%	16%	16%	19%	23%
Coauthors, female	-	1	2	2	6	4
Coauthors, female and male	10	8	12	16	17	14
Coauthors, male	19	26	24	23	18	17
Single author, male	62	52	45	44	40	42
N =	249	275	290	298	301	265

*1980 data analyzed for this publication using the 1980 Conference Program.

Source: Janice Scheuneman. "Participation of Men and Women in AERA: 1970 to 1978." Educational Researcher, May 1979.

by males with a single author (68% in 1970 and 58% in 1980). Next, Table 23 indicates an increase in the percentage of papers that are coauthored by women (2% in 1970 to 9% in 1980), while there was little percentage change in coauthored papers by men (21% in 1970 to 23% in 1980). Finally, the coauthored papers with at least one male and one female represent considerably different portions of all papers for each sex. In 1970, these papers were 53% of all papers by women and only 11% of all papers by men. By 1980, only 35% of papers by women while 20% of papers by men were in this category.

A study of name-order of female-male coauthors in the related field of psychology indicates that males are more likely than females to be first author. Of course, the difference is less marked in alphabetical listings than in non-alphabetical listings. Over the 15 year period of 1957 to 1972, there has been movement toward parity.

TABLE 22

AERA Conference Authorship

	1970	1972	1974	1976	1978	1980*
Women						
Single author	45%	57%	53%	47%	45%	56%
All women coauthors	2	5	7	5	14	9
At least one male coauthor	53	38	39	48	41	35
N =	(47)	(60)	(88)	(100)	(128)	(109)
Men						
Single author	68%	60%	56%	53%	53%	58%
All male coauthors	21	30	30	27	24	23
At least one female coauthor	11	10	14	20	23	20
N =	(227)	(238)	(236)	(246)	(225)	(194)

*1980 data analyzed for this publication using the 1980 Conference Program.

Source: Janice Scheuneman. "Participation of Men and Women in AERA: 1970 to 1978." Educational Researcher, May 1979.

Looking across the different studies and sources of data, a positive pattern emerges in which females are authoring an increasing proportion of education's journal articles, documents, and conference papers. Although we have not yet achieved parity, the trend is positive. With women authoring more, the amount of work in the area of women and education will continue to increase, and, in turn, the subject will gain greater validity.

Leadership in Professional Activities

The American Educational Research Association (AERA) is the leading professional association for those engaged in educational research and development. The most recent study of AERA's membership (1978-1979

TABLE 23

Name-Order of Female-Male Coauthors of Journal Articles in Social Research, 1957 and 1972

	1957	1972
Names Appearing in Alphabetical Order:		
Female First	42% (45)	46% (252)
Male First	58% (62)	54% (300)
Deviation from Parity	8%	4%
Names Appearing in Non-Alphabetical Order:		
Female First	37% (36)	41% (211)
Male First	63% (61)	59% (307)
Deviation from Parity	13%	9%

Note on Method: Articles tabulated represent the total abstracted in Psychological Abstracts, volumes for 1957 and 1972, minus: 1) those with other than female-male coauthorship; 2) those in which a coauthor used initials rather than given name.

Source: Matilda Butler. Some Unobtrusive Measures of the Professional Status of Women in Social Research. Presented at the Annual Convention of the International Communication Association, 1974.

data) reveals the leadership role of women. As Table 24 shoes, the percentage of association council and committee members who are women ranges from 48% on ad hoc committees to 19% on standing committees. Since women are 36% of the membership, it seems they are overrepresented on the less prestigious ad hoc committees and underrepresented on the standing committees.

AERA has 62 special interest groups (SIGs). An analysis of the leadership of SIGs over the past three years shows an increase in the percentage of women who

are SIG chairs and program chairs. When the leadership roles in the SIGs are totaled, we find that women have increased 8 percentage points (22% to 30%) over the three-year period. (Table 25)

TABLE 24

Participation of Women in AERA Councils

	Size	No. of Women	% Women
Council	15	5	31%
Standing Committee	31	6	19
Annual Committee	47	15	32
Ad hoc Committees	23	11	48

Source: "AERA: 1978-79 Annual Report." Educational Researcher, July/August 1979.

Being an editor or on an editorial board is another form of professional leadership. In AERA there are six editors--all are male. On the editorial board of Educational Researcher women are 20%. With women comprising 36% of AERA membership, this is about one half of parity. A similar study of the representation of women on editorial boards in psychology, sociology, and communication showed that women were at parity in sociology and less than parity in psychology and communication. Women were represented at about two thirds below parity on the editorial boards of psychology journals and at about one-half parity on communication journals. (Table 26) The number of women on the editorial board of the Educational Researcher, therefore, aligns more closely with the field of communication than with the field of sociology in its underrepresentation.

Participation at the annual conference of AERA is another indication of women's leadership role within the association. The report from the 1979 meeting indicates that overall women made 29% of the presentations. This is 6 percentage points under parity.

When we break this 29% down and examine it in terms of the roles women play, we find that women were 30% of the critics/discussants, and only 8% of the invited speakers. As critic/discussant and invited speaker--the two roles indicating recognition of one's leadership in the field--women have the least representation. (Table 27)

TABLE 25

Leadership in AERA Special Interest Groups[5]

Position	1977		1978		1979	
	Women	Men	Women	Men	Women	Men
Chair[1]	14% (8)	86% (48)	16% (11)	84% (56)	25% (19)	75% (58)
Program Chair[2]	20 (4)	80 (16)	30 (5)	70 (12)	44 (7)	56 (9)
Secretary/ Treasurer[3]	38 (9)	62 (15)	45 (14)	55 (17)	31 (13)	69 (29)
Newsletter Editor[4]	100 (1)	- -	38 (3)	62 (5)	45 (5)	55 (6)
Total	22% (23)	78% (79)	27% (33)	73% (90)	30% (44)	70% (102)
Number of SIGs	49		53		62	

[1] Includes: Chair, president, chair-elect, co-chair, vice-chair, vice president.

[2] Includes: Program chair, program co-chair, program vice-chair.

[3] Includes: Treasurer, secretary, secretary-treasurer, co-secretary, secretary/editor, treasurer/editor.

[4] Includes: Newsletter editor, newsletter secretary, publication officer, editor.

[5] Kenneth Reese, Palo Alto, conducted the analysis for this paper.

TABLE 26

Representation of Women on Editorial Boards of Journals in Social Research, 1958 and 1973

	1958			1973		
	Women	Men	%W	Women	Men	%W
American Psychologist	1	2	33%	2	10	17%
J. Person. & Social Psychol.	1	34	3	1	48	2
Psychological Bulletin	0	6	0	1	43	2
Contemporary Psychology	1	28	3	3	40	7
J. Abnormal (& Social) Psychol.	1	25	4	2	75	3
J. Applied Psychology	0	12	0	2	26	7
J. Comp. & Physiol. Psychol.	0	24	0	2	35	5
J. Consult. (& Clin.) Psychol.	3	12	20	2	49	4
J. Educational Psychology	1	11	8	5	30	14
J. Experimental Psychology	0	20	0	6	60	9
J. Counselling Psychology	0	9	0	4	22	15
Psychological Review	1	31	3	2	41	5
Professional Psychology	2	28	7	3	35	8
Developmental Psychology	1	9	10	8	23	26
AVERAGE, PSYCHOLOGY JOURNALS	1	18	6	3	38	9
American Sociological Review	1	32	3	5	21	19
American Sociologist	0	6	0	4	5	44
Contemporary Sociology	0	5	0	1	6	14
J. Health & Social Behavior	2	44	4	5	20	20
Sociology of Education	2	6	25	5	15	25
Sociometry	1	31	3	6	20	23
AVERAGE, SOCIOLOGY JOURNALS	1	21	6	4	14	24
J. Communication	1	6	14	0	16	0
Public Opinion Quarterly	0	9	0	3	14	18
Journalism Quarterly	2	18	10	4	21	4
AVERAGE, COMMUNICATION JOURNALS	1	11	8	1	17	7

Source: Matilda Butler. Some Unobtrusive Measures of the Professional Status of Women in Social Research. Presented at the Annual Convention of the International Communication Association, 1974.

TABLE 27

Women's Participation in AERA Annual Meeting

	Size	No. of Women	% Women
Primary authors	2255	680	30%
Session chairs	574	166	29
Critics/discussants	514	116	23
Invited speakers	12	1	8
Total participants	3345	966	29

Source: "AERA: 1978-79 Annual Report." Educational Researcher, July/August 1979.

VI. CONCLUSION

This status report on research and development concerning women and education is an initial effort to consolidate data on the support, information base, and priority topics. As we move into the 1980's, those investigating women and education have access to more financial support and a better consolidated information database than ever before. However, when we compare the existing information with the need for information, it is clear that additional research and development efforts are needed. The demand for information on many topics, in a variety of formats, is growing. The research and development community is being called on to help meet this need. And what of the role of women within the research and development community? Again, we feel progress is being made. However, women continue to be caught in a negative cycle where current invisibility leads to future invisibility. We do see responsiveness in professional associations such as AERA where there is now a SIG on Research and Women as well as a committee on women.

The data collected for this report should be only one portion of a needs assessment for sponsorship of research and development, the needs for information, and the concerns of women involved in educational research and development. As these data are combined with data from other sources and a stable pattern appears, we can better determine research priorities.

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